INELIGIBILITY CONTENTIONS: APPENDIX E

DEFENDANTS' INVALIDITY CONTENTIONS FOR U.S. PATENT NO. 9,202,156
APPENDIX E: SUBJECT-MATTER INELIGIBILITY[1]

As demonstrated in the claim charts below, claims 1-5, and 8-12 (the "Asserted Claims") of U.S. Patent No. 9,202,156 ("the '156 patent") are invalid under 35 U.S.C. § 101. Defendants provide these Subject-Matter Ineligibility Contentions in light of Defendants' current understanding of the Asserted Claims and Plaintiff's apparent construction of those claims, as reflected in their Infringement Contentions. Defendants' contentions may reflect alternative positions as to claim construction and scope, and do not represent any admissions or agreement by Defendants as to the construction, meaning, scope, definiteness, function, structure, written description support for, or enablement of any claim contained herein. Defendants' contentions herein are not, and should in no way be seen as, any admission that Defendants' accused technology meets any limitations of the claims. Defendants incorporate by reference Exhibits D1 through G5 and Exhibits D, E, F, and G as if fully set forth herein.

Claims of the '156 patent, including the Asserted Claims, are not directed to patent-eligible subject matter because they are directed to one or more abstract ideas and fail to recite any additional features that transform the abstract idea(s) into an inventive concept.

[1] Because the '219, '423, and '174 patents have identical specifications and the claims of those patents are directed to the same abstract ideas with similar conventional components, Defendants incorporate the other appendices into this document, as if fully set forth herein.

U.S. Patent No. 9,202,156: Ineligibility Chart A[2]

Pursuant to Judge Gilstrap's Standing Order Regarding Subject Matter Eligibility Contentions, Samsung provides the following chart identifying each exception to eligibility (e.g., abstract idea, law of nature, and natural phenomenon) to which each Challenged Claim is directed and the factual and legal basis therefor.

Asserted Claims	Factual and Legal Basis for Invalidity Under 35 U.S.C. § 101
Claims 1-5, 8-12 of the '156 patent.	The Asserted Claims of the '156 patent are directed to an abstract idea and/or natural phenomenon/law. For example, the claim language and specification indicate that Claim 1 is directed to the patent-ineligible concept of communicating transaction data. *See, e.g.*, '156 patent at cl. 1 (reciting "circuitry to produce a time-varying magnetic filed that mimics a swipe of a magnetic card…and a processor coupled to the circuitry to cause the circuitry to produce a time-varying magnetic field that represents the transaction data"), 2:61-3:5 (" For example, one or more time-varying magnetic fields may emanate from the location of stripe 106 to communicate with a magnetic card reader. In some embodiments, the time-varying magnetic field may emulate the time-varying magnetic field produced when a typical magnetic card is swiped through a magnetic card reader. For example, a time-varying magnetic field produced at stripe 106 may emulate the swipe of a credit card, a debit card, or any other card having a magnetic stripe compatible with a magnetic card reader."); 3:55-58 ("Electronic transaction card 104 may then be used with a magnetic stripe or smartcard based merchant point-of-sale terminal to effect a transaction"), 4:60-63 ("Electronic transaction card 220 may be utilized in financial transactions. For example, electronic transaction card 220 may be programmed to operate as a credit card or a stored value card."), 1:12-24 (discussing prior art "magnetic cards," such as "credit cards, debit cards" that are "swiped through a magnetic card reader" to "perform a transaction, such as a financial transaction"), 3:24-61; *see also* '219[3] patent at Abstract, 2:56-3:6, 3:25-51, 4:68-5:25, 7:60-8:6, 8:17-23, 10:43-54, 11:1-17, 11:35-48, 12:14-32, Figs. 1-23; *see also ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 767 (Fed. Cir. 2019)

[2] Pursuant to the Court's Standing Order Regarding Subject Matter Eligibility Contentions, Paragraph (a)(2)(A), Defendants incorporate by reference Ineligibility Chart B of the Invalidity Contentions into this chart, as if fully set forth herein.

[3] The '219, '156, '423, and '174 patents share a common specification. For the sake of simplicity, this Appendix cites to the '219 patent when referring to the common specification unless otherwise noted.

Asserted Claims	Factual and Legal Basis for Invalidity Under 35 U.S.C. § 101
	("While '[t]he § 101 inquiry must focus on the language of the Asserted Claims themselves,' the specification may nonetheless be useful in illuminating whether the claims are 'directed to' the identified abstract idea." (alteration in original) (citation omitted)). Similar claims (with even more detail) have been found patent-ineligible. *See ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019) (patent-ineligible claims directed to "the abstract idea of communicating requests to a remote server and receiving communications from that server, i.e., communication over a network"); *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, 935 F.3d 1341, 1348 (Fed. Cir. 2019) (patent-ineligible claims "drawn to the abstract idea of wirelessly communicating status information about a system"); *Sensormatic Elecs., LLC v. Wyze Labs, Inc.*, No. 2020-2320, 2021 WL 2944838, at *3 (Fed. Cir. July 14, 2021) (patent ineligible claims where "the asserted patents are directed to the abstract ideas of wireless communication and remote surveillance and none of the claim limitations take the claims beyond those abstract ideas."); *Morales v. Square, Inc.,* 75 F. Supp. 3d 716, 725 (W.D. Tex. 2014) (finding patent-ineligible claims directed to "a method of data communication"); *Front Row Techs., LLC v. NBA Media Ventures*, LLC, 204 F. Supp. 3d 1190, 1268 (D.N.M. 2016), *aff'd sub nom. Front Row Techs. LLC v. MLB Advanced Media, L.P.*, 697 F. App'x 701 (Fed. Cir. 2017) (patent-ineligible claims directed to "sending video of an event to handheld devices over wireless networks"). The fact that the Asserted Claims are directed toward use in a transactional environment does not make the claims less abstract. For example, claims reciting the use of an existing transaction card (e.g., "credit card," "debit card") to pay for transit have been found to be directed to a patent-ineligible abstract idea. *See, e.g.*, *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1371 (Fed. Cir. 2017) (patent-ineligible claims directed to "paying for a subway or bus ride with a credit card" using a "generic computer implementation" (*id.* at 1374) because the court reasoned that this was merely "the collection, storage, and recognition of data" (*id.* at 1372)). Moreover, making this payment transaction electronic does not make the claims less abstract. Courts have found claims relating to electronic communication to be directed to patent-ineligible abstract ideas. *See*, *e.g.*, *ChargePoint*, 920 F.3d at 766; *Chamberlain*, 935 F.3d 1341 at 1348. Similarly, though the Asserted Claims recite that the abstract idea of communicating transaction data is facilitated by a mobile phone, this merely limits the abstract idea to a particular environment,

Asserted Claims	Factual and Legal Basis for Invalidity Under 35 U.S.C. § 101
	which does not render the claims less abstract. *See In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016) ("although the claims limit the abstract idea to a particular environment—a mobile telephone system—that does not make the claims any less abstract for the step 1 analysis"). The Asserted Claims do not recite any improvement to technology that renders the claims non-abstract. Rather, the Asserted Claims recite the concept of communicating transaction data in result-oriented language, further confirming their ineligibility. Claim 1 does not specify how it does so in a way that improves upon any technology. While claim 1 recites that the mobile device comprises "circuitry to produce a time-varying magnetic field that mimics a swipe of a magnetic card" and "circuitry to produce a time-varying magnetic field that represents the transaction data," these are result-oriented. Indeed, general wireless communications use time-varying magnetic fields in the form of radio signals. And time-varying magnetic fields were conventionally used by prior art magnetic cards to perform transactions. To the extent "the time-varying magnetic field that mimics a swipe of a magnetic card" is the "time-varying magnetic field that represents transaction data," neither the claims nor the specification specify how such a time-varying magnetic field is implemented to mimic a swipe of a magnetic card or represent transaction data. Without reciting how this conventional communication is implemented by the claimed electronic components in any improved technological way, the Asserted Claims merely recite that a conventional form of communication is done electronically, which is a result-oriented abstract idea. *See, e.g., Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1337 (Fed. Cir. 2017) ("The claim requires the functional results . . . but does not sufficiently describe how to achieve these results in a non-abstract way."); *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1244 (Fed. Cir. 2016) ("a claim that merely describes an 'effect or result dissociated from any method by which [it] is accomplished' is not directed to patent-eligible subject matter"); *Affinity Labs of Texas, LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1269 (Fed. Cir. 2016) ("The purely functional nature of the claim confirms that it is directed to an abstract idea, not to a concrete embodiment of that idea."); *Elec. Power Grp.*, 830 F.3d at 1356 ("Indeed, the essentially result-focused, functional character of claim language has been a frequent feature of claims held ineligible under § 101, especially in the area of using generic computer and network technology to carry out economic transactions.").

Asserted Claims	Factual and Legal Basis for Invalidity Under 35 U.S.C. § 101
	The Asserted Claims do not recite an improved apparatus to perform the abstract idea. The Asserted Claims recite no unconventional components. Instead, the only recited structure is generic hardware arranged in a conventional fashion and performing "basic functions" that are "set forth at a high degree of generality": namely, "memory," "circuitry," "smartcard circuitry," and a "processor" in a generic "mobile phone." *Yu v. Apple,* 1 F.4th 1040, 1043-44 (Fed. Cir. 2021). The "memory" merely "holds transaction data." And, while the "circuitry" is recited "to produce a time-varying magnetic field that mimics a swipe of a magnetic card" and a "processor" is "coupled to the circuitry" to "cause the circuitry to produce a time-varying magnetic field that represents the transaction data," the specification and claims provide no explanation about how to implement such processor and circuitry components (and coupling thereof) to effectuate such functionality, confirming that these circuitry components are conventional. *Id.* (claims directed to "a result or effect that itself is the abstract idea and merely invokes generic processes and machinery" rather than "a specific means or method that improves the relevant technology" where the claims recited "conventional camera components" including conventional "circuitry"); *Smart Sys. Innovations, LLC v. Chicago Transit Auth.,* 873 F.3d 1364, 1371 (Fed. Cir. 2017). Though independent claim 9 adds "smartcard circuitry for performing transactions," this too is a generic component recited in highly-generalized, result-oriented language that does not make the claims non-abstract. *Yu*, 1 F.4th at 1043-44. As the Federal Circuit has explained, a claim directed to an abstract idea is patent ineligible even if the claim "require[s] that the abstract idea be performed on a 'hand-held device.'" *Trinity Info Media*, 72 F.4th at 1362. The specification admits that magnetic cards existed prior to its priority date ('219 at 1:13-25) and that the allegedly inventive feature was using electronic devices to perform transactions. *See*, *e.g.*, '219 patent at 1:7-9. But as the Federal Circuit has explained "our precedent is clear that merely adding computer functionality to increase the speed or efficiency of the process does not confer patent eligibility on an otherwise abstract idea." *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1370 (Fed. Cir. 2015). The failure of the Asserted Claims to provide any meaningful bounds on the ineligible concept is particularly problematic in this case because of the danger of preemption. *Athena Diagnostics, Inc. v. Mayo Collaborative Servs., LLC*, 915 F.3d 743, 752 (Fed. Cir. 2019) ("Preemption is sufficient to render a claim ineligible under § 101, but it is not necessary."). Because the Asserted Claims are

Asserted Claims	Factual and Legal Basis for Invalidity Under 35 U.S.C. § 101
	drafted to cover a functional result, they would preempt any modification, alternative, or improvement on what the named inventors allegedly contributed to the art. Claims 2-5 and 8-12 are directed to the same abstract idea as claim 1, and merely recite additional features that are incidental to the focus of the claims—communicating transaction data. Neither the claims nor the specification explain how the idea of communicating transaction data is implemented in any improved technological way. Independent claim 9 merely recites generic "smartcard circuitry for performing transactions" in a result-oriented way without explaining how. Claim 5 does not fare better—it merely recites that the conventional "smartcard circuitry" is conventionally arranged to be "coupled to the memory and the processor." The other claims merely add financial details that further limit the environment of the abstract idea itself. *See* claims 2, 12 (reciting that the "magnetic card" is a "magnetic credit card"); claims 3,11 (reciting that the "transaction data" is "financial data"); claim 4 (reciting that "transaction data is "credit card data"); claims 10 (reciting generic "smartcard circuitry configured to perform point-of-sale transactions"). *See Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1259 (Fed. Cir. 2016); *Chamberlain*, 935 F.3d at 1348 ("merely limiting the field of use of the abstract idea to a particular existing technological environment does not render the claims any less abstract," and "conventional components, all recited in a generic way" do not make a claim any less abstract). Nor does the fact that the claims are directed to an apparatus, rather than a method, change that the claims are directed to an abstract idea. *See Yu v. Apple Inc.*, 1 F.4th 1040, 1044 (Fed. Cir. 2021) ("[e]ven a specification full of technical details about a physical invention may nonetheless conclude with claims that claim nothing more than the broad law or abstract idea underlying the claims"); *see also ChargePoint*, 920 F.3d at 768; *Chamberlain*, 935 F.3d at 1348. At step two of the *Alice* inquiry—the search for an inventive concept—none of the additional elements of the Asserted Claims, considered individually or as an ordered combination, supplies an inventive concept that is significantly more than the patent ineligible concept itself. To supply an inventive concept, the additional features "must be more than 'well-understood, routine, conventional activity.'" *Affinity Labs of Texas, LLC v. DIRECTV*, LLC, 838 F.3d 1253, 1262 (Fed. Cir. 2016) (quoting *Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc.*, 566 U.S. 66, 79 (2012)); *Mayo*, 566 U.S. at 82 (2012) ("simply appending conventional steps, specified at a high level of generality, to laws of nature, natural phenomena, and abstract ideas cannot make those laws,

Asserted Claims	Factual and Legal Basis for Invalidity Under 35 U.S.C. § 101
	phenomena, and ideas patentable"). Here, the Asserted Claims simply append well-understood, routine, and conventional features of communication systems to the patent ineligible concept, so they do not pass muster under *Alice* step 2. *See* '219 patent: Ineligibility Chart B. Moreover, additional limitations that are themselves abstract cannot save a patent from being found ineligible. And while the claims allow the automation of human activities (e.g., the creation of a time varying magnetic field that "mimics a swipe of a magnetic card" that automates a user's manual performance of an actual swipe), the mere automation of human activities using a conventional computer system does not provide an inventive concept. *Ericsson Inc. v. TCL Commc'n Tech. Holdings Ltd.*, 955 F.3d 1317, 1330–31 (Fed. Cir. 2020) ("[W]hen a claim "does no more than require a generic computer to perform generic computer functions," as here, the claims lack an inventive concept sufficient to demonstrate eligibility at step two."). The Asserted Claims are directed to the same abstract idea, and they further do not add an inventive concept. As discussed above, the Asserted Claims do not recite inventive features, but rather recite additional generic, conventional components and techniques are used to perform the abstract idea of communicating transaction data in a particular technological environment. *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1259 (Fed. Cir. 2016). Given this significant overlap, and the lack of any distinguishing features that impact whether the claims are abstract or have an inventive concept, any of the Asserted Claims is representative of all other Asserted Claims. *See also* Ineligibility Chart A for the '219, '423, and '174 patents (Appendices D, F, G).

2(A). DESCRIPTION OF THE INDUSTRY, AT THE RELEVANT TIME, IN WHICH THE ASSERTED CLAIMS ARE ALLEGED TO BE WELL UNDERSTOOD, ROUTINE, AND CONVENTIONAL, AND THE FACTUAL AND LEGAL BASIS THEREFOR

2(B). DESCRIPTION OF HOW EACH ELEMENT OF EACH CHALLENGED CLAIM WAS WELL-UNDERSTOOD, ROUTINE, AND CONVENTIONAL IN THE RELEVANT INDUSTRY AT THE RELEVANT TIME, AND THE FACTUAL AND LEGAL BASIS THEREFOR

U.S. Patent No. 9,202,156: Ineligibility Chart B[4]

Pursuant to Judge Gilstrap's Standing Order Regarding Subject Matter Eligibility Contentions, Samsung provides the following description of the industry, at the relevant time, in which the Asserted Claims are alleged to be well understood, routine, and conventional, and the factual and legal basis therefor; and a description of how each element of each Challenged Claim, both individually and in combination with the other elements of that claim, was well understood, routine, and conventional, in the relevant industry at the relevant time, and the legal and factual basis therefore.[5]

A. Description of the Industry

As of February 22, 2005, the claimed priority date, systems for communicating transaction data like the type recited in the Asserted Claims were far from new. The '156 patent itself explains that magnetic cards, including "credit cards, debit cards, stored value cards, identification cards, access entry cards, and the like" existed and that these cards may include functionality such that "[w]hen the card is swiped through a magnetic card reader, the information is transferred to the magnetic card reader to perform a transaction, such as a financial transaction or identification transaction." '219 patent at 1:13-26.

Other prior art confirms that using electronic devices to perform such communication was well-known. *See*, *e.g.*, U.S. Patent App. No. 2003/0174839 at [0058] (describing a "mobile terminal apparatus, including a wireless interface for enabling the semiconductor integrated circuit device to perform wireless communication with the external apparatus"; *see also* U.S. Patent App. No. 2003/0075610 at [0015] (describing an "electronic credit card" comprising "a communication means for communicating with a

[4] Pursuant to the Court's Standing Order Regarding Subject Matter Eligibility Contentions, Paragraph (a)(2)(A), Defendants incorporate by reference Ineligibility Chart A of the Invalidity Contentions into this chart, as if fully set forth herein.

[5] Samsung notes that under Supreme Court and Federal Circuit precedent, the Court need not, and should not, consider whether each and every element of each Challenged Claim was well understood, routine, and conventional. Rather, the only elements which should be considered under Alice step 2 are the elements that fall outside the scope of the abstract idea. *See Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 221-224 (2014); *BSG Tech LLC*, 899 F.3d at 1290 ("It has been clear since *Alice* that a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention 'significantly more' than that ineligible concept."); *see also Supercell Oy v. GREE, Inc.*, PGR2018-00029, Paper 45 at 21-22 (explaining that the Federal Circuit has instructed that "the inquiry under Alice step two is to determine whether claim limitations *other than the steps for executing the formulated concept* are 'well-understood, routine, and conventional.'"), at 44 ("In *Alice*, the Supreme Court did not go through how each claim limitation was 'well-understood, routine, conventional.' Instead, the Supreme Court took only those additional elements not accounted for by the abstract idea . . . . The Federal Circuit has since confirmed this approach." (citations omitted)).

transaction station to provide the transaction station with account details of the user and the authorisation code to facilitate an electronic fund transfer transaction.").

Because electronic systems of communication were in use for years before the claimed priority date, there were many well-understood, routine, and conventional features of location-determining methods. The next section provides additional details on how the elements of the claim were well understood, routine, and conventional.

B. Description of How Each Element was Well Understood, Routine, and Conventional

Samsung incorporates by reference its Invalidity Contentions, served simultaneously with these contentions, as further evidence of "how each element of each Challenged Claim, both individually and in combination with other elements of the claim, was well understood, routine, and conventional." Specifically, Samsung incorporates by reference the cover pleading to its P.R. 3-3 Invalidity Contentions, including its invalidity charts set forth in Exhibits D1 through G5 and Exhibits D, E, F, and G which contain further evidence of how each element of the Asserted Claims was well understood, routine, and conventional. Samsung also incorporates by reference the prior art communication systems and other prior art identified in the '156 patent, the prosecution history of the '156 patent, and related patents and their prosecution histories. Samsung further incorporates by reference expert reports that will be provided according to the schedule provided by the Court's Docket Control Order. Below, Samsung provides additional bases showing how the elements of the Asserted Claims were well understood, routine, and conventional or otherwise not inventive.

U.S. Patent No. 9,202,156 Claim 1	**Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time**
1[pre] A mobile device comprising:[6]	To the extent the preamble is limiting, a mobile device was well understood, routine, and conventional. The '156 patent indicates that the mobile device recited in the Asserted Claims was well understood, routine, and conventional. For example, the specification discusses using conventional electronic devices. *See* '156 patent at 1:18-20 ("intelligent electronic device 102 may be a personal digital assistant (PDA), a smart-phone, a mobile phone, a handheld computer, or any other device capable of operating as described herein."); *see also* 4:37-50 ("For example, intelligent electronic

[6] Defendants do not take a position on whether the preambles are limiting. Claim elements have been numbered for convenience, and the numbering should not be understood to contend that an element is or is not part of the preamble of a claim. Defendants reserve the right to propose their constructions, if applicable, in accordance with the Court's schedule.

U.S. Patent No. 9,202,156 Claim 1	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
	device 202 may be a cellular telephone with an add-on slot for use with an electronic transaction card. Also for example, intelligent electronic device may be a non-telephonic device that has cellular network connectivity. Examples include personal digital assistants, and handheld devices dedicated to the use of electronic transaction cards. Further, intelligent electronic device 202 may be a non-telephonic device having wired or wireless connectivity to a network other than a cellular network, and in some embodiments, intelligent electronic device 202 may be a device without network connectivity. Examples include, but are not limited to: Blackberry devices available from Research in Motion (RIM), music players such as MP3 players, cameras, and the like."). All of the elements of the system described in the patent are described in a generic fashion that presumes the reader will understand without further technical detail because the elements are well understood, routine, and conventional. Courts have held that such generic descriptions are not inventive. *Chamberlain Grp., Inc. v. Techtronic Indus. Co*., 935 F.3d 1341, 1348 (Fed. Cir. 2019). The prosecution history of the '156 patent also demonstrates the conventional nature of claim 1 because they show that a wearable device anticipates the claimed "mobile device." For example, during prosecution of the '156 patent, the claims were rejected as identically recited in U.S. Patent No. 9,092,708, except that the preamble of the current claims recites 'a mobile device' where the preamble of the patented claims recites "a wearable device." *See* 9-25-2015 Non-Final Rejection. Thus, a wearable device, which was well-known in the art, applies to the "mobile device" claimed in 1[pre]. The applicant did not argue against the Examiner's rejection, but rather filed a terminal disclaimer over the '708 patent to overcome this rejection. *See also* Exhibits E1-E9 and Exhibit E at Element 1[pre]. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or

U.S. Patent No. 9,202,156 Claim 1	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
	obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance").
1[a] circuitry to provide a time-varying magnetic field that mimics a swipe of a magnetic card;	The intrinsic record, including the specification of the '156 patent, establishes that this element was well understood, routine and conventional. The specification of the '156 patent discloses no more than generic circuitry as producing the claimed time-varying magnetic field, and does not provide an explanation of how such a time-varying magnetic field would be made, confirming such circuitry was well known. See, e.g., '156 patent at 7:67-8:3; 3:11-14; 3:39-50; 6:1-18; 8:65-9:4; 10:40-51; 10:65-11:15. This claim element merely recites a generic step and using generic components in a conventional way. Circuitry to produce a time-varying magnetic field was well-understood, routine, and conventional, including circuitry to emulate the swipe of a magnetic card. This claim element is not inventive. For example, during prosecution of related U.S. Patent Application 17/021,347 application, the Examiner indicated that a claim directed to "a current carrying conductor capable of producing a time-varying-magnetic field…" was taught by the prior art of record. *See* 6/25/2021 Non-Final Rejection of '347 Application. The applicant did not challenge the Examiner's finding with respect to this limitation. Similarly, during prosecution of related U.S. Patent Application 14/833,113, the Examiner rejected a claim on the basis that the prior art of record disclosed "magnetic field generators…to emulate (mimic) prerecorded magnetic stripes." *See* 9/24/2015 Non-Final Rejection of '113 Application. The applicant did not challenge the Examiner's finding with respect to this limitation but rather, amended the claims. *See also* Exhibits E1-E9 and Exhibit E at Element 1[a]. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or

U.S. Patent No. 9,202,156 Claim 1	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
	obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance"). The element simply represents a further narrowing of the abstract idea to a particular environment, which is not patent eligible. *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1169 (Fed. Cir. 2018) (dependent claims merely represent "further narrowing of what are still" abstract ideas); *BSG Tech.*, 899 F.3d at 1287; *In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016); *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258–59 (Fed. Cir. 2016); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014).
1[b] a memory to hold transaction data; and	The intrinsic record, including the specification of the '156 patent, establishes that this element was well understood, routine and conventional. The specification indicates that the claimed "memory to hold transaction data" is no more than generic memory in an electronic device. *See* '156 patent at 6:44-47 ("Volatile memory 310 represents memory that may lose its 45 state when power is removed from electronic transaction card 300. For example, volatile memory 310 may be static random access memory (SRAM)."); 6:55-59 ("Nonvolatile memory 306 may be any suitable type of memory such as Flash memory with floating gate transistor memory cells. Examples include NOR Flash memory, NAND Flash memory, and multibit/cell Flash memory."). Thus, the claimed mobile device with "a memory to hold transaction data" simply refers to generic memory that was well-understood, routine, and conventional as of the priority date of the '156 patent. This claim element merely recites using generic components in a conventional way. The Federal Circuit has previously explained that using generic memory is well-understood, routine, and conventional. *See In re Bd. of Trustees of Leland Stanford Junior Univ.*, 989 F.3d 1367, 1374 (Fed. Cir. 2021) (stating that it was "hard to imagine a patent claim that recites hardware limitations in more generic terms than the terms employed by claim 1 [including reciting a 'memory']" and that therefore the claim was not patent-eligible; *see also Realtime Data LLC v. Array Networks Inc.*, 537 F. Supp. 3d 591, 617 (D. Del. May 4, 2021). This claim element is not inventive. For example, during prosecution of related U.S. Patent Application 17/021,347 application, the Examiner indicated that a claim directed to "a memory to

U.S. Patent No. 9,202,156 Claim 1	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
	hold transaction data for use in a plurality of transactions" was taught by the prior art of record. *See* 6/25/2021 Non-Final Rejection of '347 Application. The applicant did not challenge the Examiner's finding with respect to this limitation but rather, amended the claims. *See also* Exhibits E1-E9 and Exhibit E at Element 1[b]. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance").
1[c] a processor coupled to the circuitry to cause the circuitry to produce a time-varying magnetic field that represents the transaction data;	The intrinsic record, including the specification of the '156 patent, establishes that this element was well understood, routine and conventional. The specification indicates that the claimed "processor coupled to the circuitry" is no more than generic processor in an electronic device. *See* '156 patent at 6:31-35 ("Processing device 308 represents a processor capable of communicating with the other blocks shown in electronic transaction card 300. For example, processing device 308 may be a microprocessor, a digital signal processor (DSP), a 35 microcontroller, or the like."). The specification never describes how the processor is "coupled to the circuitry to cause the circuitry to produce a time-varying magnetic field that represents the transaction data," indicating that this limitation would have been well-understood, routine and conventional. Thus, the claimed mobile device with "a processor coupled to the circuitry to cause the circuitry to produce a time-varying magnetic field that represents the transaction data" simply refers to generic processor that was well-understood, routine, and conventional as of the priority date of the '156 patent. This claim element merely recites using generic components in a conventional way. This claim element is not inventive. For example, during prosecution of related U.S. Patent Application 17/021,347 application, the Examiner indicated that a claim directed to "a processor coupled to control the driver" was taught by the prior art of record. *See* 6/25/2021 Non-Final

U.S. Patent No. 9,202,156 Claim 1	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
	Rejection of '347 Application. The applicant did not challenge the Examiner's finding with respect to this limitation but rather, amended the claims. Similarly, during prosecution of related U.S. Patent Application 14/833,113, the Examiner rejected a claim on the basis that the prior art of record disclosed "a processor coupled to the circuitry to cause the circuitry to produce a time-varying magnetic field that represents a single transaction account number." *See* 9/24/2015 Non-Final Rejection of '113 Application. The applicant did not challenge the Examiner's finding with respect to this limitation but rather, amended the claims. *See also* Exhibits E1-E9 and Exhibit E at Element 1[c]. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance").
1[d] wherein the mobile device comprises a mobile phone.	The intrinsic record, including the specification of the '156 patent, establishes that this element was well understood, routine and conventional. This claim element merely recites using generic components in a conventional way. *See*, *e.g.*, '156 patent at Fig. 1, Fig. 2A, 2:15-21. That the claimed mobile device comprises a mobile phone simply refers to generic mobile phones that were well-understood, routine, and conventional as of the priority date of the '156 patent. This claim element merely recites using generic components in a conventional way. The Federal Circuit and other courts have repeatedly explained that relying on a computer environment (such as a mobile phone) to perform generic tasks does not add an inventive concept. *See*, *e.g.*, *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1370 (Fed. Cir. 2015) ("[M]erely adding computer functionality to increase the speed or efficiency of the process does not confer patent eligibility on an otherwise abstract idea."); s*SkillSurvey, Inc. v. Checkster LLC*, 178 F. Supp. 3d 247, 257 (E.D. Pa. 2016), *aff'd*, 683 F. App'x 930 (Fed. Cir. 2017) ("Use of

U.S. Patent No. 9,202,156 Claim 1	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
	generic computer technology does not render this otherwise abstract idea inventive"); *WhitServe LLC v. Donuts Inc.*, 390 F. Supp. 3d 571, 579–80 (D. Del. 2019), *aff'd*, 809 F. App'x 929 (Fed. Cir. 2020) ("the claims elements, considered both individually and as an ordered combination, recite nothing more than "generic computer components employed in a customary manner," which is insufficient to transform an abstract idea into a patent-eligible invention") *See also* 1[pre] above; Exhibits E1-E9 and Exhibit E at Element 1[d]. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance").

U.S. Patent No. 9,202,156 Claim 2	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
2. The mobile device of claim 1 wherein the time-varying magnetic field mimics a swipe of a magnetic credit card.	The intrinsic record, including the specification of the '156 patent, establishes that this element was well understood, routine and conventional. *See*, *e.g.*, '156 patent at 3:2-5; 4:61-66. This claim element merely claims the functional result that the time-varying magnetic field "mimics a swipe of a magnetic credit card" by using generic components in a conventional way. This claim element is not inventive. For example, during prosecution of related U.S. Patent Application 17/021,347 application, the Examiner indicated that a claim directed to "a current carrying conductor capable of producing a time-varying-magnetic field…" was taught by the prior art of record. *See* 6/25/2021 Non-Final Rejection of '347 Application. The applicant did not challenge the Examiner's finding with respect to this limitation. Similarly, during prosecution of related U.S. Patent Application 14/833,113, the Examiner rejected a claim on the basis that the prior art of record disclosed "magnetic field generators…to emulate (mimic) prerecorded magnetic stripes." *See* 9/24/2015 Non-Final Rejection of '113 Application. The applicant did not challenge the Examiner's finding with respect to this limitation but rather, amended the claims. *See also* claim 1 above; Exhibits E9 and Exhibit E at Claim 2. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance"). The element simply represents a further narrowing of the abstract idea to a particular financial environment, which is not patent eligible. *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1169 (Fed. Cir. 2018) (dependent claims merely represent "further narrowing of what are still" abstract ideas); *BSG Tech.*, 899 F.3d at 1287; *In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d 607, 611 (Fed.

U.S. Patent No. 9,202,156 Claim 2	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
	Cir. 2016); *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258–59 (Fed. Cir. 2016); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014).

U.S. Patent No. 9,202,156 Claim 3	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
3. The mobile device of claim 1 wherein the transaction data comprises financial data.	The intrinsic record, including the specification of the '156 patent, establishes that this element was well understood, routine and conventional. *See*, *e.g.*, '156 patent at 11:62-12:2. This claim element merely claims the functional result that the transaction data "comprises financial data" by using generic components in a conventional way. That transaction data could be financial data was well-known, understood, and conventional. This claim element is not inventive. For example, during prosecution of related U.S. Patent Application 14/833,113, the Examiner rejected a claim on the basis that the prior art of record disclosed a mobile device "wherein the single transaction account number represents financial data." *See* 9/24/2015 Non-Final Rejection of '113 Application. The applicant did not challenge the Examiner's finding with respect to this limitation but rather, amended the claims. *See also* claim 1 above; Exhibits E1-E9 and Exhibit E at Claim 3. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance"). The element simply represents a further narrowing of the abstract idea to a particular financial environment, which is not patent eligible. *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1169 (Fed. Cir. 2018) (dependent claims merely represent "further narrowing of what are still" abstract ideas); *BSG Tech.*, 899 F.3d at 1287; *In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016); *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258–59 (Fed. Cir. 2016); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014).

U.S. Patent No. 9,202,156 Claim 4	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
4. The mobile device of claim 3 wherein the financial data comprises credit card data.	The intrinsic record, including the specification of the '156 patent, establishes that this element was well understood, routine and conventional. *See*, *e.g.*, '156 patent at 11:62-12:2. This claim element merely claims the functional result that the financial data "comprises credit card data" by using generic components in a conventional way. That financial data could be credit card data was well-known, understood, and conventional. This claim element is not inventive. For example, during prosecution of related U.S. Patent Application 14/833,113, the Examiner rejected a claim on the basis that the prior art of record disclosed a mobile device "wherein the financial data comprises credit card data." *See* 9/24/2015 Non-Final Rejection of '113 Application. The applicant did not challenge the Examiner's finding with respect to this limitation but rather, amended the claims. *See also* claim 1 above; Exhibits E1-E9 and Exhibit E at Claim 4. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance"). The element simply represents a further narrowing of the abstract idea to a particular financial environment, which is not patent eligible. *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1169 (Fed. Cir. 2018) (dependent claims merely represent "further narrowing of what are still" abstract ideas); *BSG Tech.*, 899 F.3d at 1287; *In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016); *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258–59 (Fed. Cir. 2016); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014).

U.S. Patent No. 9,202,156 Claim 5	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
5. The mobile device of claim 1 further comprising smartcard circuitry coupled to the memory and the processor.	The intrinsic record, including the specification of the '156 patent, establishes that this element was well understood, routine and conventional. *See, e.g.*, 156 patent at 10:65-11:15; *see also* Fig. 20, 22. This claim element thus merely recites generic circuitry that may generate signals compatible with a conventional smartcard reader. *See*, *e.g.*, 156 patent at 11:5-7 ("Magnetic/smartcard circuitry 2030 may include circuits to produce time-varying magnetic fields or signals compatible with a smart card reader"). Electronic smartcards that could communicate with smartcard readers were known at the time of the invention. And the specification and claim do not provide any further description of the claimed "smartcard circuitry" or how it communicates with a smartcard reader, which means those elements must have been generic or known at the time. The specification does not describe how the smartcard circuitry is "coupled to a memory" or to a "processor" in a mobile phone. Rather, the specification only describes that an electronic device may access generic memory card circuitry through generic memory card slots. *See* '156 patent at 11:10-14 ("Memory card circuitry 2050 may be any type of memory circuitry accessible by an intelligent electronic device. The intelligent electronic device may access memory card circuitry 2050 through memory card slot compatible interface 2060."). Even if memory cards could be considered to be part of the mobile phone, the specification does not describe any inventive feature with respect to smartcard circuitry accessible by the mobile phone, but instead only generic memory cards that were well-known at the time, and generic coupling to memory and processors known at the time. *See also* claim 1 above; Exhibits E1-E9 and Exhibit E at Claim 5. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance").

U.S. Patent No. 9,202,156 Claim 8	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
8. The mobile device of claim 1 wherein the time-varying magnetic field is used to perform point-of-sale transactions.	The intrinsic record, including the specification of the '156 patent, establishes that this element was well understood, routine and conventional. This claim element merely claims the functional result that the time-varying magnetic field "is sued to perform point-of-sale transactions" by using generic components in a conventional way. That time-varying magnetic fields could be used to perform point-of-sale transactions was well-known, routine, and conventional. Circuitry to produce a time-varying magnetic field was well-understood, routine, and conventional, including circuitry to perform point-of-sale transactions. For example, during the prosecution history of related U.S. Patent Application 17/021,347, the Examiner indicated that a claim directed to "a current carrying conductor capable of producing a time-varying-magnetic field…" was taught by the prior art of record. *See* 6/25/2021 Non-Final Rejection of '347 Application. The applicant did not challenge the Examiner's finding with respect to this limitation. Similarly, during prosecution of related U.S. Patent Application 14/833,113, the Examiner rejected a claim on the basis that the prior art of record disclosed "magnetic field generators…to emulate (mimic) prerecorded magnetic stripes." *See* 9/24/2015 Non-Final Rejection of '113 Application. The applicant did not challenge the Examiner's finding with respect to this claim element but rather, amended the claims. *See also* Element 1[c] above. *See also* claim 1 above; Exhibits E9 and Exhibit E at Claim 8. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance").

U.S. Patent No. 9,202,156 Claim 8	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
	The element simply represents a further narrowing of the abstract idea to a particular financial environment, which is not patent eligible. *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1169 (Fed. Cir. 2018) (dependent claims merely represent "further narrowing of what are still" abstract ideas); *BSG Tech.*, 899 F.3d at 1287; *In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016); *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258–59 (Fed. Cir. 2016); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014).

U.S. Patent No. 9,202,156 Claim 9	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
9 [pre] A mobile device comprising:	*See* Element 1[pre] above. *See also* Exhibits E1-E9 and Exhibit E at Element 9[pre].
9[a] circuitry to produce a time-varying magnetic field that mimics a swipe of a magnetic card;	*See* Element 1[a] above. *See also* Exhibits E1-E9 and Exhibit E at Element 9[a].
9[b] smartcard circuitry for performing transactions; and	The intrinsic record, including the specification of the '156 patent, establishes that this element was well understood, routine and conventional. *See, e.g.*, 156 patent at 10:65-11:15; *see also* Fig. 20, 22. This claim element thus merely recites generic circuitry that may generate signals compatible with a conventional smartcard reader. *See*, *e.g.*, 156 patent at 11:5-7 ("Magnetic/smartcard circuitry 2030 may include circuits to produce time-varying magnetic fields or signals compatible with a smart card reader"). Electronic smartcards that could communicate with smartcard readers were known at the time of the invention. And the specification and claim do not provide any further description of the claimed "smartcard circuitry" or how it communicates with a smartcard reader, which means those elements must have been generic or known at the time. The functional result that the smartcard circuitry is used for "performing transactions" is also conventional. That smartcard circuitry could be used to perform point-of-sale transactions was well-known, routine, and conventional. For example, during the prosecution history of related U.S. Patent Application 17/021,347, the Examiner indicated that a claim directed to "a current carrying conductor capable of producing a time-varying-magnetic field…" was taught by the prior art of record. *See* 6/25/2021 Non-Final Rejection of '347 Application. The applicant did not challenge the Examiner's finding with respect to this limitation. Similarly, during prosecution of related U.S. Patent Application 14/833,113, the Examiner rejected a claim on the basis that the prior art of record disclosed "magnetic field generators…to emulate (mimic) prerecorded magnetic stripes." *See* 9/24/2015 Non-Final Rejection of '113 Application. The applicant did not challenge the Examiner's finding with respect to this claim element but rather, amended the claims.

U.S. Patent No. 9,202,156 Claim 9	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
	See also Claims 5 and 8 above. *See also* Exhibits E1-E9 and Exhibit E at Element 9[b]. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance"). The element simply represents a further narrowing of the abstract idea to a particular financial environment, which is not patent eligible. *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1169 (Fed. Cir. 2018) (dependent claims merely represent "further narrowing of what are still" abstract ideas); *BSG Tech.*, 899 F.3d at 1287; *In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016); *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258–59 (Fed. Cir. 2016); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014).
9[c] a processor coupled to the smartcard circuitry and the circuitry to produce a time-varying magnetic field;	The intrinsic record, including the specification of the '156 patent, establishes that this element was well understood, routine and conventional. The specification indicates that the claimed "processor coupled to the smartcard circuitry" is no more than generic processor in an electronic device. *See* '156 patent at 6:31-35 ("Processing device 308 represents a processor capable of communicating with the other blocks shown in electronic transaction card 300. For example, processing device 308 may be a microprocessor, a digital signal processor (DSP), a 35 microcontroller, or the like."). The specification never describes how the processor is "coupled to the smartcard circuitry and the circuitry to produce a time-varying magnetic field," indicating that this limitation would have been well-understood, routine and conventional. Thus, the claimed mobile device with "a processor coupled to the smartcard circuitry and the circuitry to produce a time-varying magnetic field" simply refers to generic processor that was well-understood, routine, and conventional as of the

U.S. Patent No. 9,202,156 Claim 9	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
	priority date of the '156 patent. This claim element merely recites using generic components in a conventional way. This claim element is not inventive. For example, during prosecution of related U.S. Patent Application 17/021,347 application, the Examiner indicated that a claim directed to "a processor coupled to control the driver" was taught by the prior art of record. *See* 6/25/2021 Non-Final Rejection of '347 Application. The applicant did not challenge the Examiner's finding with respect to this limitation but rather, amended the claims. Similarly, during prosecution of related U.S. Patent Application 14/833,113, the Examiner rejected a claim on the basis that the prior art of record disclosed "a processor coupled to the circuitry to cause the circuitry to produce a time-varying magnetic field that represents a single transaction account number." *See* 9/24/2015 Non-Final Rejection of '113 Application. The applicant did not challenge the Examiner's finding with respect to this limitation but rather, amended the claims. *See also* Element 1[c] and claim 5 above. *See also* Exhibits E1-E9 and Exhibit E at Element 9[c]. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance").
9[d] wherein the mobile device comprises a mobile phone.	*See* Element 1[d] above. *See also* Exhibits E1-E9 and Exhibit E at Element 9[d].

U.S. Patent No. 9,202,156 Claim 10	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
10. The mobile device of claim 9 wherein the smartcard circuitry is configured to perform point-of-sale transactions.	The intrinsic record, including the specification of the '156 patent, establishes that this element was well understood, routine and conventional. This claim element merely claims the functional result that the smartcard circuitry "is configured to perform point-of-sale transactions" by using generic components in a conventional way. That smartcard circuitry could be used to perform point-of-sale transactions was well-known, routine, and conventional. Circuitry to perform point-of-sale transactions was well-understood, routine, and conventional. For example, during the prosecution history of related U.S. Patent Application 17/021,347, the Examiner indicated that a claim directed to "a current carrying conductor capable of producing a time-varying-magnetic field…" was taught by the prior art of record. *See* 6/25/2021 Non-Final Rejection of '347 Application. The applicant did not challenge the Examiner's finding with respect to this limitation. Similarly, during prosecution of related U.S. Patent Application 14/833,113, the Examiner rejected a claim on the basis that the prior art of record disclosed "magnetic field generators…to emulate (mimic) prerecorded magnetic stripes." *See* 9/24/2015 Non-Final Rejection of '113 Application. The applicant did not challenge the Examiner's finding with respect to this claim element but rather, amended the claims. *See also* Claim 8 above. *See also* Exhibits E1-E9 and Exhibit E at Claim 10. In view of the above, this element merely recites conventional functionality that is incidental to the abstract idea of communicating transaction data. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("insignificant 'pre-solution activity'" is "not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter"); *Parker v. Flook*, 437 U.S. 584, 591 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance").

U.S. Patent No. 9,202,156 Claim 11	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
11. The mobile device of claim 9 wherein the transactions are financial transactions.	*See* Claim 3 above. *See also* Exhibits E1-E9 and Exhibit E at Claim 11.

U.S. Patent No. 9,202,156 Claim 12	Factual and Legal Basis for How Each Element of Each Challenged Claim Was Well-Understood, Routine, and Conventional in the Relevant Industry at the Relevant Time
12. The mobile device of claim 9 wherein the time-varying magnetic field mimics a swipe of a magnetic credit card.	*See* Claim 2 above. *See also* Exhibits E1-E9 and Exhibit E at Claim 12.