

EXHIBIT 1

EXHIBIT FF

**CONTAINS INFORMATION DESIGNATED AS APPLE HIGHLY CONFIDENTIAL
INFORMATION SUBJECT TO PROTECTIVE ORDER**

**United States District Court
Northern District of California
San Jose Division**

APPLE INC., a California corporation,

Plaintiff,

vs.

SAMSUNG ELECTRONICS CO., LTD., a
Korean business entity, SAMSUNG
ELECTRONICS AMERICA, INC., a New
York corporation, and SAMSUNG
TELECOMMUNICATIONS AMERICA,
LLC, a Delaware limited liability company,

Defendants.

SAMSUNG ELECTRONICS CO., LTD., a
Korean business entity, SAMSUNG
ELECTRONICS AMERICA, INC., a New
York corporation, and SAMSUNG
TELECOMMUNICATIONS AMERICA,
LLC, a Delaware limited liability company,

Counterclaim-Plaintiffs,

v.

APPLE INC., a California corporation,

Counterclaim-Defendant.

Civil Action No. 11-CV-01846-LHK

**REBUTTAL EXPERT REPORT OF HYONG S. KIM, Ph.D.
REGARDING NON-INFRINGEMENT
OF THE ASSERTED CLAIMS OF U.S. PATENT NO. 7,447,516**

**CONTAINS INFORMATION DESIGNATED AS APPLE HIGHLY CONFIDENTIAL
INFORMATION SUBJECT TO PROTECTIVE ORDER**

Table 0: Maximum number of simultaneously-configured uplink dedicated channels

	DPDCH	HS-DPCCH	E-DPDCH	E-DPCCH
Case 1	6	1	-	-
Case 2	1	1	2	1
Case 3	-	1	4	1

58. As indicated above, Case 1 and Case 3 show configurations in which either DPDCH or E-DPDCH, but not both, are configured. For Case 2, there is a maximum possible DPDCH channel of one, but as indicated above, this channel would typically not be used. I infer from this that typically E-DPDCH is not used at the same time with DPDCH, and is thus only used with the other control channels.

**2. The Documentation Identified By Dr. Williams Does Not Show That
The Accused Apple Products Infringe Claim 1**

59. Dr. Williams contends that the accused Apple products' documentation demonstrates that the products infringe claim 1. I disagree. For example, Dr. Williams contends that Figure 92 (entitled "Block Diagram of HS-DPCCH sub-frame builder") of the Infineon X-Gold 61x Product Specification confirms that

Redacted

As I explained in Part VII-A of this report, the HS-DPCCH is an uplink control channel for HSDPA for sending acknowledgements (*e.g.*, ACK or NACK) for received HS-PDSCH data frames. The HS-DPCCH does not carry acknowledgements for E-DPDCH data frames, is not related to the E-DPDCH and, therefore, cannot be used to demonstrate that HARQ is used for the E-DPDCH.

60. The deposition testimony of Mr. Markus Paltian provides additional supports. For example, Mr. Paltian testified as following during his deposition:

Q. And what about the HS-DPCCH, what is that channel?

**CONTAINS INFORMATION DESIGNATED AS APPLE HIGHLY CONFIDENTIAL
INFORMATION SUBJECT TO PROTECTIVE ORDER**

A. It's kind of feedback channel for the downlink HS transmission. So the HS-DPDCH feedback.

Q. And what type of feedback specifically is transmitted on the HS-DPCCH channel?

A. There are two – two kinds of information. The one – one is the – is an acknowledge packet, which acknowledges whether we received a proper packet on the – on the downlink; and the other one is the CQI information, which indicates the baseband, what – which data rate the modem expects to be able to receive under the current conditions.

3. Dr. Williams Failed To Identify Source Code Showing That The Accused Apple Products Infringe Claim 1

61. Dr. Williams contends that the source code for the accused Apple products demonstrates that the accused products infringe claim 1. I disagree. For example, Dr. Williams states in paragraph 90 of the Williams Report that the source code for the accused products supports his opinion that the accused products infringe claim 1. (Williams Report, ¶ 90). Dr. Williams, however, failed to cite to any specific portions of the source code at least with respect to “Claim [1A].”

4. An Invalid Claim Cannot Be Infringed

62. As detailed in my Invalidity Report, claim 1 is invalid in view of the prior art, and the accused Apple products cannot infringe an invalid claim. In Part X-B-1 of the Invalidity Report, for example, I pointed out that Japanese Patent Application No. 2002-190774 to Hatta et al. (hereinafter “Hatta”) teaches scaling-down the transmit power factor for one type of channels while keeping constant the transmit power factor of one or more other types of channels. In the Williams Report, Dr. Williams states that “the first type of channel can include all the channels not supporting HARQ and the second type of channels can include all the channel supporting HARQ (thus, all the E-DPDCH channels).” (Williams Report, ¶ 198). In my opinion, Samsung and Dr. Williams’ characterization of the claimed first channel as being inclusive of all the

**CONTAINS INFORMATION DESIGNATED AS APPLE HIGHLY CONFIDENTIAL
INFORMATION SUBJECT TO PROTECTIVE ORDER**

uplink channels that do not support HARQ, such as DPDCH, DPCCH, HS-DPCCH, and E-DPCCH, is incorrect. If, however, Samsung and Dr. Williams' characterization of the claimed first channel is to be held valid, then such characterization would further support my conclusion that claim 1 is invalid in view of the prior art, including Hatta.

63. As indicated above, Dr. Williams' application of the claims to the accused Apple products, which I believe is incorrect, means that "the first channel comprises all the channels of the type that do not support HARQ," and the second channel is the E-DPDCH. (Williams Report, ¶ 198).

64. When E-DPDCH is used, it is transmitted with at least the E-DPCCH for providing control information, and, as discussed in Part VII-B, the DPCCH, which provides pilot bits and TPC information. (*See* TS 25.214, Section 5.1.2.6). The deposition testimony of Markus Paltian, an employee of Intel Corporation, confirms this. For example, Mr. Paltian testified as following during his deposition:

Q. The channels below the E-DPDCH channels -- DPCCH, does that correspond to the dedicated physical control channel?

A. You mean the DPCCH?

Q. Right, DPCCH.

A. Mm-Hmm. That's true.

Q. That's the control channel for the E-DPDCH?

A. It's the control channel for the DPDCH, and you could also say it's somehow the control channel for the whole uplink.

Mr. Paltian also testified as following:

Q. And why is it that the -- the gain scaling factors of the enhanced dedicated physical data channels are scaled down first, according to the standard?

A. The reason is that the standard tries to assure the quality of the overall link. So one -- the precondition for a stable physical layer connection

**CONTAINS INFORMATION DESIGNATED AS APPLE HIGHLY CONFIDENTIAL
INFORMATION SUBJECT TO PROTECTIVE ORDER**

is proper receiptment of the pilot bits that are transmitted in the DPCCH channel – and so the standard tries to save the – prioritize – is it correctly “prioritize”?

Q. Prioritize?

A. Prioritize. Wants to prioritize the DPCCH over the E-DPCCH in terms of power, because – for stability reasons, it’s – it is more important. So first E-DPCCH channels are reduced in terms of power.

65. In the case when E-DPCCH is present, in TS 25.214, therefore, there are at least two different control channels that use two different gain factors -- β_c and β_{EC} . Claim 1 requires that data be sent over “the transmit power factor [singular] for the first channel.” Dr. Williams does not acknowledge this inconsistency between the claim language and the infringement theory, but he recognizes that there are different gain factors. Dr. Williams says that “the channels are each multiplied by their respective gain factor and then summed,” and says that “each channel is associated with its own gain factor.” (Williams Report, ¶¶ 112, 113). As I note above, this is a reason why Dr. Williams’ grouping of the DPCCH and E-DPCCH as “the first channel” is incorrect. This is also a reason why the accused Apple products would not infringe based on compliance with TS 25.214 – *i.e.*, TS 25.214 requires transmitting data through the first channel using corresponding transmit power factors of the channels that are included in the first channel, whereas claim 1 requires transmitting data through the first channel using a single transmit power factor.

5. Doctrine Of Equivalent

66. Dr. Williams does not specifically address this point in his report under the doctrine of equivalents. That is, he does not opine whether there is a substantial difference between using a single transmit power factor for both the DPCCH and E-DPCCH and using respective power factors. I believe that TS 25.214 operates in a substantially different way by using respective transmit power factors. The use of respective gain factors allows the E-DPCCH to have a gain factor that is set to different values when the DPCCH is used. In the example of

**CONTAINS INFORMATION DESIGNATED AS APPLE HIGHLY CONFIDENTIAL
INFORMATION SUBJECT TO PROTECTIVE ORDER**

uplink channels that do not support HARQ, such as DPDCH, DPCCH, HS-DPCCH, and E-DPCCH, is incorrect. If, however, Samsung and Dr. Williams' characterization of the claimed first channel is to be held valid, then such characterization would further support my conclusion that claim 1 is invalid in view of the prior art, including Hatta.

113. As indicated above, under Dr. Williams application of the claims to the accused Apple products, which I believe is incorrect, the first channel means that "all the channels of the type that do not support HARQ," and the second channel is the E-DPDCH. (Williams Report, ¶ 198).

114. When E-DPDCH is used, it is transmitted with at least the E-DPCCH for providing control information, and, as discussed in Part VII-B, the DPCCH, which provides pilot bits and TPC information. (*See* TS 25.214, Section 5.1.2.6). The deposition testimony of Markus Paltian confirms this. For example, Mr. Paltian testified as following during his deposition:

Q. The channels below the E-DPDCH channels -- DPCCH, does that correspond to the dedicated physical control channel?

A. You mean the DPCCH?

Q. Right, DPCCH.

A. Mm-Hmm. That's true.

Q. That's the control channel for the E-DPDCH?

A. It's the control channel for the DPDCH, and you could also say it's somehow the control channel for the whole uplink.

Mr. Paltian also testified as following:

Q. And why is it that the – the gain scaling factors of the enhanced dedicated physical data channels are scaled down first, according to the standard?

A. The reason is that the standard tries to assure the quality of the overall link. So one – the precondition for a stable physical layer connection